

**Implementation plan for:**

**Mobile Home Energy Efficiency and  
Energy Education Program:  
No. 287-02**

**San Diego Gas and Electric Service Territory**

Submitted to the California Public Utilities Commission

In response to R.01-08-028 2002 Energy Efficiency Program Selection

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## **Mobile Home Energy Efficiency and Energy Education Program**

### **I. Program Overview**

The program is designed to offer assistance to 4,250 moderate income residents of mobile homes in the San Diego Gas and Electric (SDG&E) service territory. Under RHA's program, customers may receive energy education, comprehensive weatherization treatment, high efficiency lighting, duct sealing, low flow showerheads, faucet aerators, water heater blanket insulation, water heater pipe insulation and torchiere lamps exchanged for incandescent lamps.

### **II. Marketing Outreach and Education**

Given RHA's knowledge of the mobile home market in SDG&E's service territory, and our experience with the LIEE program, we plan to enroll customers through a combination of proven methods, including: direct mail, door-to-door contacts, contacts through the mobile home park management, and working through community based organizations.

RHA will develop and distribute a program flier to be used in direct mail and door to door solicitations that will include general program information and contact phone numbers for consumer inquiries. The flier will contain brief tips on reducing energy consumption in the home and offer free energy efficiency measures installation for qualified customers (non-low income customers). A disclosure stating that this program is "funded by California ratepayers under the auspices of the California Public Utilities Commission" will be displayed prominently on the flyer.

RHA will conduct a site assessment to determine the customer's specific needs. All customers receiving a site assessment will be offered some energy efficiency measures and in-home energy education. Energy education will consist of a brief discussion with customers regarding cost and usage and maintenance of home appliances, heating and cooling equipment, and home weatherization techniques. Strategies to reduce energy consumption will be offered and a list of other SDG&E energy efficiency programs will be provided.

In addition to the in home assessment of energy efficiency needs, RHA will work closely with SDG&E to determine whether or not customers have participated in similar programs and thereby avoid duplication of measures and services. A listing of participants in the Residential Contractor Program, Summer Initiative Program, Low Income Program or other pertinent customer participation records will be requested, by address and measure installed, prior to any measure installation activity on this program.

### **III. Measures Installation Activity**

RHA's Mobile Home Energy Efficiency and Education Program will provide energy efficiency measures installation for 4,250 moderate income mobile home residents over a period of 16 months beginning July of 2002.

RHA's Outreach Specialist will conduct in-home Energy Education and Assessment. In the initial contact visit, Outreach Specialists will assess the home for energy efficiency measure needs and install compact fluorescent light bulbs in customers' homes.

CFL's will be installed based on customer preference and usage of a particular fixture; no CFL's will be left for customer installation.

The Outreach Specialist will also offer customers an exchange of one incandescent light fixture for an energy efficient Torchiere light fixture at the initial visit.

At the initial visit the Outreach Specialist will assess for feasibility and appropriateness of faucet aerators, low flow showerheads (up to two), water heater tank and pipe insulation, exterior CFL porch light fixtures (up to two) and duct sealing or air infiltration measures\* to be installed during a second visit.

The benefits of these additional measures will be explained to customers and if they accept, RHA staff or one of RHA's subcontractors will schedule the second visit for the installation of these additional measures. The second visit will generally take place within two weeks of the first.

RHA will begin home visits in July 2002 and expects to visit an average of 265 homes per month, for 16 months, completing the target goal of 4,250 homes visited in November of 2003.

RHA estimates that 6 Field installers will complete 13.25 visits per day.

*\*Air infiltration measures may consist of door weatherstripping, envelope repair at pipe and vent penetrations, caulking or interior evaporative cooler covers.*

### **IV. Plans to implement this decision's changes to original proposals:**

- A. Regarding this decision's change to the original proposal excluding the proposed refrigerator recycling component:

RHA accepts the Commissions exclusion of the refrigerator recycling component of our proposed program and the budget amount tied to that activity (<\$30,464>).

RHA will diligently refer customers to the statewide program for refrigerator recycling.

- B. Regarding this decision's exclusion of mark-ups on rebated equipment:

RHA accepts the Commissions exclusion of this item (<\$48,075>).

- C. Regarding this decision's reduction of warehouse and handling cost resulting from the elimination of the refrigerator recycling component of the proposed program.

RHA accepts the reduction of warehouse and handling cost associated with the elimination of the refrigerator recycling component (<\$24,286>).

- D. Regarding this decision's exclusion of "Non Profit" subcontractor profit margins.

RHA has elected to absorb the exclusion of subcontractor profit margins within the overall budget (<\$14,494>). RHA believes that is important to San Diego that Community Based Organizations participate in this program. The MAAC Project and CUI have been valued subcontractors to RHA for over 12 years and they must generate revenue to maintain and expand the services they provide to their constituents and community.

**V. Revised energy and peak demand savings targets, as well as per-unit energy savings and unit-count projections, as applicable, detailed on a quarterly basis:**

- A. *See Table 3.1: Unit Based Implementation Activities – Attached*

- B. *See Table 3.2: Detailed Demand Reduction (kW) – The program is expected to meet or exceed the demand reduction goal of 1,435 kW.*

- C. *See Table 3.3: Detailed Energy Savings (kWh) – Given the Commission's decision to remove the refrigerator recycling component and reduce the budget by the amounts associated with that cost-effective measure, RHA cannot make a reasonable forecast of kWh savings that will meet the 2,367,283 kWh goal. The refrigerator recycling was estimated to provide 649,231 net kWh. We estimate that the program will be able to achieve 1,939,978. We believe that our energy savings estimates are very conservative and consistent with approved values for SDG&E. RHA requests that the goal be set to 1,939,978 net kWh consistent with the savings associated the measures to be installed.*

- D. *See Table 3.4: Detailed Energy Savings (Therms) - The program is expected to meet or exceed the therm savings goal of 142,622 therms.*

The table below summarized the savings estimates from the Workbook:

	Total
Annual Demand Reductions Net kW	1,470
Annual Energy Savings Net kWh	1,939,978
Lifecycle Energy Savings Net kWh	22,585,433
Annual Energy Savings Net Therms	175,319
Lifecycle Energy Savings Net Therms	1,705,961

## VI. Revised cost-effectiveness calculations:

- A. See *Table PIP3.1: 2002–2003 Summary of Program Cost Effectiveness* – In a May 22<sup>nd</sup> email it was identified that there is at least one error in the Commission’s workbook. While we are not sure how the errors effect the cost-effectiveness, it appears to affect the TRC costs. The Participant test appears to be correct. Based on our calculations using the elements in the workbook, we estimate a TRC benefit/cost ratio of  $\$1,716,231/\$1,307,770 = 1.31$  and a participant test score of 3.37. We understand that the Energy Division will edit the workbook to compute the official scores.

- B. Document all data sources:

In general, the incremental measure cost data, energy savings values, and kW savings values were obtained from either the Database for Energy Efficiency Resources (DEER), Xenergy – August 2001 or Appendix C of SDG&E’s December 14, 2001 filing for Multifamily rebates (SDG&E – 12/14/01).

Lighting measures: Gross kWh and kW savings for lighting measures were obtained from SDG&E – 12/14/01 from page C9 - lighting table. Gross incremental measure cost data for lighting measures were obtained from pages 4-55 (CFLs), 4-57(13 watt exterior fixture), 4-60 (torchiere – used an average of the 2 products).

Water heating measures: Gross therm savings were obtained from DEER page 6-129. Since we anticipate that all mobile homes treated under the program will have natural gas water heating, we assumed no electric energy or kW savings. Gross incremental measure cost data were obtained for DEER pages 4-10 through 4-14.

Space conditioning measures: Gross kWh, kW, and therm savings for duct sealing were obtained from SDG&E – 12/14/01 from a report entitled: “Residential Demand and Energy Savings Estimates for single Family, Multi-Family, and Mobile Home Measures, Robert Mowris September 12, 2001”. The incremental measure cost is based on RHA’s survey of current market costs, and experience with other programs (Note: mobile homes duct work is considerably less obstructed than in SF and MF). Gross kWh, kW, and therm savings for infiltration measures were computed assuming a 15% savings rate. Savings were computed based on a simple average usage across all climate zones of

133 therms/year for space heating and 1,066 kWh for cooling/year for 25% of the treated homes. The kW savings was estimated assuming 4 cooling months x 4 hours per day x 30.5 days per month (i.e., 488 cooling hours) or  $(.15 \times 1066 \times .25)/488 = .082$  kW. We believe that these estimates are conservative. We plan to perform infiltration reduction only in cases where there is a clear need. For example, many mobile homes have visible areas for infiltration around window AC units, around duct registers, and through door jams. The incremental measure cost for infiltration was obtained from DEER page 4-40, using small minor home repair as a proxy.

Second refrigerator removal/recycling: Gross kWh and kW, savings we obtained from SDG&E – 12/14/01 for Refrigerator recycling page C-2. Since there is no value for incremental measure cost in DEER we developed the values assuming \$50 incentive and a cost of \$50 to haul and recycle the unit. Note: since there is no true unsubsidized market for this measure, we believe that our value is fairly conservative.

An Excel workbook is attached that documents the assumptions described above.

## **VII. Hard-to-reach targets and goals.**

The program is designed to provide energy efficiency measures to customers residing in mobile homes. The target market is customers that are moderate income (i.e., less than 400% of the poverty level) that reside in mobile homes.

These customers are the most unlikely of the non low-income customers to self-adopt energy efficiency measures or participate in statewide rebate programs.

RHA will target 4,250 customers participating in this program that will meet the “hard to reach” criteria.

Low Income customers will be referred to SDG&E’s Low Income Energy Efficiency (LIEE) program.

## **VIII. Budget**

- A. See Table PIP1.1: 2002 – 2003 Implementation Plan Program Budget - Attached

## **IX. Defined quarterly performance targets to qualify for quarterly progress payments.**

RHA has defined quarterly performance targets as follows:

	<b>ACTIVITY</b>	<b>UNIT GOAL</b>	<b>PROGRESS PAYMENT</b>
QUARTER 2 2002	Implementation Plan Approved  Marketing Materials Approved  3 <sup>rd</sup> Quarter Measures Material Purchased	N/A	\$207,440.00
QUARTER 3 2002	Measures Installed  EM&V Plan Approved  Report #1	350	\$207,440.00
QUARTER 4 2002	Measures Installed  Report #1	780	\$207,440.00
QUARTER 1 2003	Measures Installed  Report #1	780	\$207,440.00
QUARTER 2 2003	Measures Installed  Report #1	780	\$207,440.00
QUARTER 3 2003	Measures Installed  Report #1	780	\$207,440.00
QUARTER 4 2003	Measures Installed  Report #1	780	\$207,443.00
QUARTER 1 2004	Final Payment		\$ 62,533.00

**X. Procedures for responding to consumer questions and complains regarding the program and for resolving program/performance disputes with customers.**

RHA will develop and distribute a program flier to be used in direct mail and door to door solicitations that include general program information and contact phone numbers for customer inquiries. RHA will suggest to participants that they retain the flier in the event they need to contact the RHA office for any reason. Additionally, RHA will require subcontractors to provide a separate business card with subcontractor contact information for participants' use.

RHA will maintain a daily work schedule for RHA and subcontractor staff, listing the customer name and address of scheduled work for the following day. In this way, RHA office staff will know which contractor or RHA staff member is involved when responding to customer complaints or inquiries. All RHA and subcontractor



staff will carry a cellular phone or pager so they may be easily reached by RHA or subcontractor office staff to respond to complaints or inquiries.

A contractual provision will be included in each subcontractor agreement that requires subcontractors to report any complaints, incidents or disputes within 24 hours of their occurrence. RHA will take lead responsibility for the resolution of any such occurrence and attempt resolution within 48 hours. A log/record of any such incidents will be maintained by RHA, and will describe the nature of the incident and ultimate resolution.

As part of the Energy Education component of this program, each member of the RHA staff will be provided with a brief description and contact phone number for complimentary energy efficiency or assistance programs offered by federal, state or local (utility) agencies. Whenever possible, customers will be directed to the appropriate agency for additional assistance or information.

## **XI. Evaluation, Measurement and Verification Plans**

The success of the program will be measured by a combination of the energy and peak demand savings achieved and the number of customers that participate in the program. A program participant is defined as an SDG&E mobile home customer that receives energy education, site assessment, and the installation of at least one energy efficiency measure. Since RHA is committed to helping customers achieve real energy/bill savings, only measures that will realize reasonable energy savings will be installed. Therefore, simply installing measures is not the goal of the program. We believe reaching these “hard-to-reach” customers is an important element of the success of the program and therefore, should be a measure of the success of the program as well.

RHA proposes to employ measurement and verification methods that have been used and/or are currently being used by the utilities (e.g., Multifamily RCP and the Small Business SPC programs). Therefore, we plan to utilize energy savings values presented in the Commission’s workbook and our documentation as “deemed” savings values and after a reasonable period of time (e.g., 3 months) conduct a retention survey/analysis on a statistically significant sample of program participants. The final energy savings for the program will be the deemed savings values multiplied by the total number of retained measures installed.

In order to have as unbiased of an evaluation as possible, we propose to outsource the retention verification and analysis work to a third party. The evaluation contractor will be included in the development of the sample design and any survey instruments. Retention will be determined by surveying participants to determine the percentage of the installed measures that are still installed. The evaluation contractor will document the results and provide a report of the findings before the end of the program.